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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,917	05/11/2001	Satoru Yamaguchi	P 280368 ND-J060-US	4741
27572	7590	10/15/2003		EXAMINER
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			DEL SOLE, JOSEPH S	
			ART UNIT	PAPER NUMBER
			1722	

DATE MAILED: 10/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/852,917	YAMAGUCHI ET AL.
	Examiner	Art Unit
	Joseph S. Del Sole	1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 18 August 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,3-9 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,3-9 and 11-15 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) Interview Summary (PTO-413) Paper No(s) _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

Drawings

1. The drawings were received on 8/18/03. These drawings are acceptable.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 3-7 and 9, 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (5,055,027) in view of Meyer(4,136,969).

Sato discloses an extrusion molding apparatus including a housing (see figures) including screws 6A, 6B built into the housing, a material being introduced into the housing and extruded by way of a forward end extrusion port by rotating the screws 6A, 6B, a filter for filtering the material is arranged at the forward end extrusion port, and a mold 5 for molding product.

However, Sato doesn't disclose the screws including a pressure portion, an extended portion and a kneading portion as recited by the instant claims.

Meyer (fig. 2) discloses a screw including a pressure portion 25, an extended portion 26 arranged on a forward end extrusion port side of the pressure portion, and a kneading portion 38', 39, 41 arranged between the pressure portion 25 and the extended portion 26 for kneading the material. The pressure portion 25 has the feed rate per revolution progressively decreased toward the forward end extrusion port, while the extended portion 26 has the feed rate per revolution progressively increased toward the forward end extrusion port. The relation L/R is greater than or equal to 1.0 holds, where R is the outer diameter of the extended portion 26 and L the length thereof (see fig. 2). The feed rate per revolution of the kneading portion 38', 39, 41 is smaller than that of a forward end of the pressure portion 25 and a back end of the extended portion 26. The screws achieve plastication and/or melting with low length-to-diameter ratios (col. lines 37- 62).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the screws of Sato with screws of Meyer because such screws would enable plastication and/or melting of the material with low length-to-diameter ratios. As to the ratios of feed rate and to the dimensions of the apparatus as recited by the respective instant claims, such specific operation parameters and dimensions would have been found due to routine engineering in finding operable or optimum values for such parameters and dimensions. It is not inventive to discover the optimum or workable ranges by routine experimentation, *In re Aller*, 105 USPQ 233. Further regarding the claims, these parameters would be readily determined by routine experimentation in an effort to produce the optimum results. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

6. Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (5,055,027) in view of Meyer (4,136,969) as applied to claims 1, 3-7 and 9, 11-14 above, and further in view of Murata et al (5,980,227).

Murata et al disclose a mold 10 for molding a honeycomb structure. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to further modify the apparatus with the mold of Murata et al. because such a modification would enable a honeycomb structure to be produced.

Response to Arguments

7. Applicant's arguments filed 8/18/03, with respect to the drawings, specification and rejections under 35USC112 only have been fully considered and are persuasive. The objections and 35USC112 rejections have been withdrawn.

8. Applicant's arguments with respect to the 35USC103 rejections filed 8/18/03 have been fully considered but they are not persuasive.

The Applicant argues that Sato and Meyer fail to teach the feature "the pressure portion has a feed rate per revolution which progressively decreases toward the forward end extrusion port, and the extended portion has a feed rate per revolution which progressively increases toward the forward end extrusion port" and that the Examiner bases the rejection of the constituent features on Figure 2, which does not refer to the feed rate per revolution. The Applicant also argues that a person skilled in the art cannot read the technical idea of the invention based on Figure 2, since the figures attached to the specification are schematic views and do not show accurate dimensions of a structure.

The Examiner disagrees. As for the distance between the filter and the forward end of the screw, the optimum distance would be obvious from routine experimentation. Additionally, the ratio L/R greater than or equal to 1.0 is also obvious from Meyer. As for the feature "the pressure portion has a feed rate per revolution which progressively decreases toward the forward end extrusion port, and the extended portion has a feed rate per revolution which progressively increases toward the forward end extrusion port" (and including the claimed ration of not less than 1.02); this limitation is an intended use. There is no teaching in the specification, or support in the claim, for the feed rates (or changes thereof) being purely dependent on structural limitations. Feed rate is dependent on the material fed and the use of the apparatus, such as rotation speed of the screw. The claims fail to recite specific structural properties of the extrusion molding

apparatus that are novel and non-obvious. Intended use has been continuously held not to be germane to determining the patentability of the apparatus, *In re Finsterwalder*, 168 USPQ 530. Purpose to which apparatus is to be put and expression relating apparatus to contents thereof during intended operation are not significant in determining patentability of an apparatus claim, *Ex parte Thibault*, 164 USPQ 666. Inclusion of the material worked upon by a structure being claimed does not impart patentability to the claims, *In re Otto et al.*, 136 USPQ 458. A recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the structural limitation of that claimed, *Ex parte Masham*, 2 USPQ 2d 1647. The manner or method in which a machine is to be utilized is not germane to the issue of patentability of the machine itself, *In re Casey*, 152 USPQ 235.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph S. Del Sole whose telephone number is (703) 308-6295. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Wanda Walker, can be reached at (703) 308-0457. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



J.S.D.
October 7, 2003



ROBERT DAVIS
PRIMARY EXAMINER
GROUP 1000, 1700

